

WE CLAIM:

1. A method for transferring data over a Universal Serial Bus (USB), the method comprising the steps of:

polling a burst communication adapter device coupled to the USB using a first type of

5 channel for the burst communication adapter device;

receiving a reply message from the burst communication adapter device, the reply message indicating that the burst communication adapter device has data for transfer via a second type of channel for the endpoint device;

10 responsive to receiving the reply message, issuing a bulk channel read request for the burst communication adapter device.

2. The method of claim 1, where:

15 the reply message includes an amount of data that the burst communication adapter device has to transfer via the USB; and

the TD specifies the amount of data included in the reply message from the burst communication adapter device.

3. The method of claim 1, where the first type of channel for the burst

20 communication adapter device further comprises an Interrupt channel.

4. The method of claim 3, where the second type of channel for the burst communication adapter device further comprises a Bulk channel.

5. A computer readable medium having stored therein instructions for causing a central processing unit to execute the method of claim 1.

6. A computer readable medium having stored therein instructions for causing a central processing unit to execute the method of claim 4.

7. The method of claim 1 wherein the second type of channel is the Bulk channel, and further comprising the step of creating a Bulk List Transfer Descriptor (TD) and linking the TD to an Endpoint Descriptor corresponding to the second type of channel for the burst communication adapter device.

8. A system for transferring data via a Universal Serial Bus (USB), the system comprising:

a host system bus;

a memory device coupled to the host system bus;

a Universal Serial Bus (USB);

a host controller coupled to the host system bus and the USB, the host controller being configured to process communications between the USB and the host system bus according to a predetermined endpoint descriptor list residing in the memory device;

a burst communication adapter device coupled to the USB, the burst communication adapter device being configured to receive a polling message via a first type of channel of the USB and, responsive thereto, send a reply message when the burst communication adapter device has data for transfer via a second type of channel of the USB, where the second type of channel of the burst communication adapter device corresponds to the predetermined endpoint descriptor list; and

a microprocessor coupled to the host system bus, the microprocessor having a class driver configured to send the polling message through the first type of channel of the USB via the host controller, the class driver being further configured to receive the reply message and, responsive thereto, create a transfer descriptor and attach the transfer descriptor to the predetermined endpoint descriptor list.

9. The system of claim 8, where:

the burst communication adapter device is further configured to include in the reply message an amount of data that the burst communication adapter device has to transfer via the second type of channel of the USB; and

the class driver is further configured to specify the amount of data included in the reply message in the transfer descriptor.

10. The system of claim 8, where the first type of channel of the USB further comprises an Interrupt channel for the burst communication adapter device.

11. The system of claim 8, where the second type of channel of the USB further comprises a Bulk channel for the burst communication adapter device.

12. A system for managing data communications via a Universal Serial Bus (USB),
5 the system comprising:

a burst communication adapter device configured to be coupled to the USB, the burst communication adapter device being configured to receive a polling message via a first type of channel of the USB and, responsive thereto, send a reply message when the burst communication adapter device has data for transfer via a second type of channel of the USB, where the second
10 type of channel of the burst communication adapter device corresponds to a predetermined endpoint descriptor list; and

a class driver configured to execute on a host system coupled that includes a host controller coupled to the USB, the class driver being configured to send the polling message through the first type of channel of the USB via the host controller, the class driver being further
15 configured to receive the reply message and, responsive thereto, create a transfer descriptor and attach the transfer descriptor to the predetermined endpoint descriptor list.

13. The system of claim 12, where:

the burst communication adapter device is further configured to include in the reply
20 message an amount of data that the burst communication adapter device has to transfer via the second type of channel of the USB; and

the class driver is further configured to specify the amount of data included in the reply message in the transfer descriptor.

14. The system of claim 12, where the first type of channel of the USB further
5 comprises an Interrupt channel for the burst communication adapter device.

15. The system of claim 12, where the second type of channel of the USB further comprises a Bulk channel for the burst communication adapter device.

10 16. A universal serial bus communications adapter comprising:
an ethernet physical layer transceiver having an associated ethernet MAC protocol
process,
a USB driver in communication with said MAC process, said USB driver including an
interrupt channel process and a bulk transfer channel process,
15 a USB physical layer in communication with said USB driver, said USB physical layer
being adapted for communication with a USB host device,
wherein upon receipt of an ethernet packet addressed to said ethernet adapter, said
ethernet adapter transmits a data present signal via said interrupt channel process.

20 17. The universal serial bus communications adapter of claim 16 wherein the data
present signal comprises a data present flag bit.

18. The universal serial bus communications adapter of claim 16 wherein the data present signal indicates the number of data packets to be sent.

19. The universal serial bus communications adapter of claim 16 wherein the data present
5 signal indicates the amount of data to be sent.

20. The adapter of claim 16 further comprising a class driver software module adapted for running on a host computing platform, wherein said class driver software includes
10 instructions to issue a bulk-in read command in response to an interrupt reply message.